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TAG Revision 7/23/21

STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

Washington State Energy Code Development

Standard Energy Code Proposal Form

Code being amended: ☒ Commercial Provisions ☐ Residential Provisions

Code Section # C403.2.2, C406.6, C406.7–

Brief Description:

Proposal allows >150% ventilation if the DOAS has a very efficient energy recovery device and doesn't use supplemental heat when it's in this mode. This aligns with NEEA's VHE DOAS spec for sizing HRVs at 50% of capacity (better SRE and fan power) and using boost mode when needed, so it could encourage better design.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

C403.2.2.1 Ventilation. Ventilation, either natural or mechanical, shall be provided in accordance with Chapter 4 of the *International Mechanical Code*. Where mechanical ventilation is provided, the system shall be configured to provide no greater than 150 percent of the minimum outdoor air required by Chapter 4 of the *International Mechanical Code* or other applicable code or standard, whichever is greater.

Exceptions:

1. The mechanical system may supply outdoor air at rates higher than the limit above when it is used for particulate or VOC dilution, economizer~~er~~ing or night flushing, dehumidification, pressurization, exhaust make-up, or other process air delivery. Outdoor air shall be reduced to the minimum ventilation rates when not required for the preceding uses.
2. Air systems supplying ~~Group R-1, R-2 or I-2 occupancies~~dwelling or sleeping units within Group R-1, R-2 or I-2 occupancies.
3. Alterations that replace less than half of the total heating and cooling capacity of the system.
4. Systems with energy recovery complying with the requirements of Section C403.7.6.1 that utilize sensible only active chilled beams for space cooling without any additional zonal fan power. Active chilled beams shall be permitted to utilize the increased outdoor airflow to increase space sensible capacity and to maintain space latent cooling loads without additional controls to reduce the outdoor airflow to each *zone*.
5. Systems that include *energy recovery ventilation* with an 80 percent minimum sensible recovery effectiveness in accordance with Section C403.3.5.1~~.1~~ and with controls capable and configured to lock-out the use of supplemental heat may ~~when providing~~ provide ventilation up to a maximum of 200 percent of the minimum outdoor air required ~~but not greater than 200 percent of the minimum outdoor air required~~.

C406.6 Dedicated outdoor air system (DOAS). No less than 90 percent of the total *conditioned floor area* of the whole building, building addition or tenant space, excluding floor area of unoccupied spaces that do not require ventilation per the *International Mechanical Code*, shall be served by DOAS installed in accordance with Section C403.3.5. This option is not available to buildings subject to the prescriptive requirements of Section C403.3.5, or to areas served by systems utilizing Section C403.2.2.1 exception 5.

C406.7 High performance dedicated outdoor air system (DOAS). A whole building, building addition or tenant space which includes a DOAS complying with Section C406.6 shall also provide minimum sensible effectiveness of heat recovery of 80 percent and DOAS total combined fan power less than 0.5 W/cfm of outdoor air. For the purposes of this

section, total combined fan power includes all supply, exhaust, recirculation and other fans utilized for the purpose of ventilation. This option is not available to areas served by systems utilizing C403.2.2.1 exception 5.

Purpose of code change:

Designers sometimes want to provide greater than 150% of minimum ventilation for indoor air quality reasons. An increased heat recovery effectiveness requirement will help offset the space heating and cooling energy penalty of the additional outside air.

Allow projects to provide extra ventilation

Your amendment must meet one of the following criteria. Select at least one:

- ☐ Addresses a critical life/safety need.
- ☐ The amendment clarifies the intent or application of the code.
- ☒ Addresses a specific state policy or statute. (Note that energy conservation is a state policy)
- ☐ Consistency with state or federal regulations.
- ☐ Addresses a unique character of the state.
- ☐ Corrects errors and omissions.

Check the building types that would be impacted by your code change:

- ☐ Single family/duplex/townhome
- ☐ Multi-family 1 – 3 stories
- ☒ Multi-family 4 + stories
- ☒ Commercial / Retail
- ☒ Institutional
- ☐ Industrial

Your name	Mike Kennedy	Email address	mikekennedy@energysims.com
Your organization	Mike D Kennedy	Phone number	Click here to enter text.
Other contact name	Louis Starr		

Instructions: Send this form as an email attachment, along with any other documentation available, to: sbcc@des.wa.gov. For further information, call the State Building Code Council at 360-407-9278.

Economic Impact Data Sheet

Briefly summarize your proposal's primary economic impacts and benefits to building owners, tenants and businesses.

This creates a path for projects wishing to install more ventilation in their spaces. It is not required unless a project wishes to exceed that previous maximum. The intent is that it be energy neutral.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal? (See OFM Life Cycle Cost **Analysis tool** and **Instructions;** use these **Inputs**. **Webinars on the tool can be found Here and Here**)

No calculations done as this is optional

Provide your best estimate of the annual energy savings (or additional energy use) for your code change proposal?

No calculations done, as measure should be energy neutral.

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:

This proposal will not substantially impact code review, inspection, or enforcement.

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.